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of the recurved tips of these ascogenous hyphae. The ascus contains two nuclei, which fuse, and this fusion nucleus divides by a triple division to form the eight nuclei of the ascospores. The two ascus nuclei are looked upon as male and female, and their fusion completes the union of the gametes which initiated the development of the perithecium. The method of spore formation was not made out. The ascus walls finally degenerate, leaving the spores free in the perithecium.

From his studies Schikorra concludes that Monascus is a true ascomycete, belonging to the family Aspergillaceae, in the order Plectascineae. It is placed here on account of the similarity of its perithecium to that of Penicillium and Aspergillus.

The presence of a true sexual process in the Ascomycetes has been established beyond a doubt in a considerable number of forms. The investigations of several species have shown, however, that a normal sexual process is not to be expected in all. The apparent absence of any nuclear fusion in the fertilized oogonium, although the sexual nuclei become arranged in pairs, brings Monascus into harmony with Claussen's results on Pyronema, in which nuclear fusion is claimed to occur only in the ascus, a sort of modified sexual process, therefore, being present. Realizing how difficult it is observe nuclear fusion in the oogonium, on account of the small size of the nuclei and the apparent rapidity of the process, one cannot but feel that the actual fusion in the ascogonium may have been overlooked. Claussen's and Schikorra's results support somewhat Maire's contention that there is a tendency in the Ascomycetes to form a synkaryophyte analogous to that of the Basidiomycetes.—J. B. Overton.

Electricity and photosynthesis.—Koltonski publishes an elaborate report[18] of experiments on the effects of electric currents of varying strength, density, and direction upon the number of gas bubbles given off by Elodea and Ceratophyllum in unit time. The work is an extension of that of Thouvenin,[19] and proceeds, like his, upon the assumption (which may usually be valid) that under normal conditions the number of these bubbles constitutes a fair measure of the rate of photosynthesis; but it is hardly necessary to say that the action of an electric current may create conditions which render this assumption invalid. It is interesting to know that electric currents produce an effect upon the evolution of gases in these plants; but it is impossible to interpret Koltonski's results. He presents them, indeed, as only a starting-point for further investigations.—C. R. B.

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[8] Koltonski, A., Ueber den Einfluss der elektrischen Ströme auf die Kohlensäureassimilation der Wasserpflanzen. Beih. Bot. Centralbl. **23**:204–271. *figs. 4.* 1909.

[9] Thouvenin, M., De l'influence des courants électriques continus sur la décomposition de l'acide carbonique chez les végétaux aquatiques. Rev. Gén. Bot. **8**:433–450. 1896.